PCV20

COMPARATIVE SAFETY AND EFFECTIVENESS OF CATHETER ABLATION VERSUS SURGERY FOR NEWLY DIAGNOSED ATRIAL FIBRILLATION

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OBJECTIVES: To assess comparative safety and effectiveness of catheter ablation (CA) versus surgery in patients with newly diagnosed atrial fibrillation(AF). **METHODS:** We used the national health claim database managed by Health Insurance Review and Assessment Service (HIRA) from 2007 to 2011. Patients with AF who aged 18-99 were identified using the I48* ICD-10 code. The eligible cohort was identified patients who diagnosed new AF in 2008 and treated with CA or surgery within 1 year of initial diagnosis. According to modality, characteristics of patient were analyzed. Patients were followed until in hospital death or December 31, 2011. Mortality and retreatment were analyzed by Cox-proportion hazard regression. **RESULTS:** A total of 343 eligible patients with AF were composed of 220(82.7%) treated with CA, 123(15.8%) treated with surgery. Among treated patients, CHA2DS2 Score were 3.17±1.61 in CA and 4.13±1.67 in surgery. Mortality for patients treated with CA and surgery were 0.9% and 10.6% respectively, also retreatment rate were 50.9% and 15.4% respectively. Treatment modality was associated with retreatment rate of AF[adjusted hazard ratio(HR), 0.33; 95% confidence interval (CI), 0.18-0.60] and no significant difference in mortality. The most common complication was heart failure. **CONCLUSIONS:** In this study, we found that mortality was higher treated with surgery than catheter ablation, but there was no significant difference and surgery is significantly superior in terms of retreatment rate. However, patients receiving catheter ablation therapy are more likely to be at low risk of stroke and follow-up time was not enough to compare mortality and complication incidence. Therefore, we need additional long-term studies using clinical data of AF.

PCV21

COMPARATIVE EFFECTIVENESS AND SAFETY OF RADIOFREQUNCY CATHETER ABLATION VERSUS DRUG THERAPY FOR ATRIAL FIBRILLATION: A SYSTEMATIC REVIEW

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OBJECTIVES: Atrial Fibrillation (AF) is the most common arrhythmia associated with a variety of cardiovascular conditions and increased rates of stroke, death. The aim of this study was to critically evaluate the current evidence on the use of radiofrequency catheter ablation (RFCA) for rhythm control compared with antiarrhythmic drug (AAD) therapy in patients with AF. **METHODS:** We searched potentially relevant studies using electronic databases such as Ovid-Medline, Ovid-EMBASE, Cochrane library, and seven Korean medical databases through May 2012. Two independent reviewers extracted data from each study using a standardized form. Disagreements between reviewers were resolved by discussion or in consultation with a third reviewer. The quality of the selected studies was assessed using the Cochrane risk of bias for randomized controlled trials (RCTs). A random-effects model was used to combine trials and the dichotomous data were presented as relative risk (RR) with 95% confidence intervals (CI). **RESULTS:** A total of 10 studies (8 RCTs) representing 930 patients were included. Their methodological quality was mostly poor. RFCA, in comparison with AAD therapy, significantly increased freedom from atrial tachycardia/AF (RR 3.06, 95% CI 2.34-3.99, P<0.00001, I^2=55%) in 8 RCTs at one year follow-up. There was no difference in all-cause mortality (4 RCTs, RR 0.76, 95% CI 0.18-3.19, P=0.71, I^2=0%). Also, the rates of stroke/transient ischemic attack between both groups was insignificant (RR 1.95, 95% CI 0.34-11.04, P=0.83, I^2=0%). Fewer complications were reported in the RFCA group compared with AAD group (RR 0.68, 95% CI 0.37-1.23, I^2=45%). **CONCLUSIONS:** There is limited evidence to suggest that RFCA may be a better rhythm control treatment option compared to AAD therapy in patient with AF. Further rigorous RCTs with long-term follow up that overcome the many limitations of the current evidence are warranted.

PCV22

LDL-C LEVEL AND GOAL ATTAINMENT AMONG PATIENTS WHO SWITCH FROM HIGHER-EFFICACY LIPID LOWERING THERAPIES TO SIMVASTATIN

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OBJECTIVES: Elevated low-density lipoprotein cholesterol (LDL-C) is an influential risk factor for cardiovascular disease (CVD) morbidity/mortality. Our objective was to evaluate the impact of switches from higher-efficacy lipid-lowering therapy (HELLT) to simvastatin on LDL-C levels and LDL-C goal attainment among high risk patients in UK. **METHODS:** This retrospective cohort study included individuals who received more than 2 months prescription of the following HELLT between 8/1/04 and 12/31/08: ezetimibe/simvastatin fixed dose combination (E/S), ezetimibe and simvastatin co-administration (E+S), ezetimibe and atorvastatin co-administration (E+A), ezetimibe and rosuvastatin co-administration (E+R), rosuvastatin monotherapy and atorvastatin monotherapy. For each baseline HELLT, we used the analysis of covariance to estimate the least square mean difference in the percent change from baseline LDL-C between switchers and non-switchers, and logistic regression to estimate the odds ratio of LDL-C goal attainment (<3mmol/L for primary prevention and <2mmol/L for secondary prevention) at follow-up. **RESULTS:** A totoal of 30,148 patients from Clinical Practice Research Datalink met inclusion/exclusion criteria. E+A and E+R were excluded due to small number of switchers. 89.1% of switchers in atorvastatin group switched to an equivalent or higher efficacy dose of simvastatin, while 100% switching from E/S or E+S and 96.8% switching from rosuvastatin switched to lower than equivalent efficacy dose. The adjusted least squares mean difference of the percent change in LDL-C levels from baseline were 18.74% (95% confidence interval 8.6-28.9), 16.7% (12.8-20.6) and -0.1% (-1.8-1.6) when switching from E/S or E+S, rosuvastatin and atorvastatin respectively compared to non-switchers. The odds of LDL-C goal attainment at follow-up for E/S or E+S, rosuvastatin and atorvastatin switchers were respectively 0.40 (0.23-0.70), 0.36 (0.26-0.51) and 1.03 (0.92-1.15) relative to non-switchers. **CONCLUSIONS:** Among the high risk CVD population in the UK, switching to simvastatin from higher-efficacy lipid lowering therapy, especially rosuvastatin and simvastatin/ezetimibe FDC or co-administration results in higher LDL-C level and lower goal attainment rate.

PCV23

COMPARATIVE PHARMACOECONOMIC ANALYSIS OF TWO METFORMIN FOR-MULATIONS IN PATIENTS WITH DIABETES MELLITUS TYPE-2 AND ISCHEMIC HEART DISEASE

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OBJECTIVES: To compare cost-effectiveness of two metformin formulations (immediate release [IR] and extended release [XR]) in the cohort of patients with diabetes mellitus type-2 (DM2) and ischemic heart disease (IHD). **METHODS:** Cost-effectiveness analysis of metformin IR (Siofor® 500 mg tid) and metformin XR (Glucophage® Long 750 mg bid) was performed using cohort modeling. Daily dosage of metformin was the same for both formulations, 1500 mg a day. For a model cohort of 100 patients, annual cost of metformin treatment was 359,270 RUB (11,841 USD) for metformin IR and 498,347 RUB (16,425 USD) for metformin XR. Effectiveness of the treatment was evaluated using the data of UKPDS study (1998), which demonstrated that 1% reduction of HbA1c led to 14% reduction of angina attacks rate. **RESULTS:** Assuming linear character of relationships between HbA1c level and angina attacks rate, and taking into account the data of Donnelly L.A. et al. (2008) that using metformin XR provides additional 0.7% reduction of HbA1c level, we suggested that administration of metformin XR would reduce the frequency of angina attacks in DM2 patients with OHD by 9.8%. It was assumed that average frequency of angina attacks in this cohort was 1 per year per patient; therefore administration of metformin XR instead of metformin IR would annually prevent approximately 10 cases of angina in the modeled cohort of 100 patients. According to standards of IHD treatment in Russia, angina attack treatment costs 19,970 RUB per patients (658 USD), for 10 patients it will total 199,700 RUB (6,580 USD). This sum might be saved by administration of metformin XR, and even taking into account higher cost of metformin XR, annual saving per 100 patients would be 60,600 RUB per year (1,997 USD). **CONCLUSIONS:** Administration of metformin XR to patients with DM2 and IHD is more cost-effective that administration of metformin IR.

PCV24

COMPARATIVE EFFECTIVENESS OF ANGIOTENSIN RECEPTOR BLOCKERS IN CHRONIC HEART FAILURE: A NETWORK META-ANALYSIS

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OBJECTIVES: Chronic Heart failure (CHF) is associated with significant morbidity and mortality. Angiotensin receptor blockers (ARBs) are one of most commonly prescribed drug class for patients with CHF among patients who are intolerant to angiotensin converting enzyme inhibitors (ACEI). A recently published Cochrane review concluded that ARBs as a class confer no additional benefit on mortality or total hospitalization as compared to placebo or ACEI. The aim is to compare efficacy of ARBs (losartan, valsartan, candesartan, and telmisartan) on hospitalization and mortality relative to each other and to placebo among patients with CHF. **METHODS:** Studies on ARBs were identified from a recently published Cochrane systematic review. A network meta-analysis (NMA) was conducted for three outcomes; all-cause hospitalizations, hospitalization due to heart failure, and all-cause mortality using WinBUGs. Binomial likelihood models were run for each outcome and analyses were conducted on an odds ratio scale. Fixed or random effects models were run to estimate relative treatment effects **RESULTS:** Sixteen studies were identified from the review. Five studies reported data on all-cause hospitalization and six on hospitalizations due to heart failure, for two drugs (candesartan and losartan).Data on mortality was reported in 16 studies for losartan, valsartan, candesartan, and telmisartan. ARBs did not have significantly different effects from placebo or each other on all the three outcomes studied. NMA can also be used to rank treatments. Within this we found that compared to all other ARBs, telmisartan and losartan had the highest probabilities of being the best treatments to reduce mortality and hospitalizations, respectively. **CONCLUSIONS:** Results of the NMA indicated that there was no significant difference between any of the individual ARBs, ACEI or placebo on mortality and hospitalization. A further analysis that uses meta-regression to adjust for co-morbid conditions such as diabetes, hypertension and ischemic heart disease is warranted.

PCV25

BUILDING THE INFRASTRUCTURE FOR CONDUCTING PRAGMATIC TRIALS IN A LEARNING HEALTH CARE SYSTEM

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OBJECTIVES: To describe methods used and successes realized in building the infrastructure to conduct pragmatic clinical trials of comparative effectiveness